Monitoring and Evaluating Hospital Autonomization and Its Effects on Priority Health Services

September 2004

Prepared by:

Ramón Castaño, MD, MS
Bitran & Asociados

Ricardo Bitran, Ph.D.
Bitran & Asociados

Ursula Giedion, M.S.
Bitran & Asociados

Partners for Health Reform*plus*

Abt Associates Inc. ■ 4800 Montgomery Lane, Suite 600
Bethesda, Maryland 20814 ■ Tel: 301/913-0500 ■ Fax: 301/652-3916

In collaboration with:
Development Associates, Inc. ■ Emory University Rollins School of Public Health ■ Philoxenia International Travel, Inc. ■ Program for Appropriate Technology in Health ■ Social Sectors Development Strategies, Inc. ■ Training Resource Group ■ Tulane University School of Public Health and Tropical Medicine ■ University Research Co., LLC.

Funded by:
U.S. Agency for International Development

Order No TE 052.

PHR*plus*

Mission

Partners for Health Reformplus is USAID's flagship project for health policy and health system strengthening in developing and transitional countries. The five-year project (2000-2005) builds on the predecessor Partnerships for Health Reform Project, continuing PHR's focus on health policy, financing, and organization, with new emphasis on community participation, infectious disease surveillance, and information systems that support the management and delivery of appropriate health services. PHRplus will focus on the following results:

- *Implementation of appropriate health system reform.*
- *Generation of new financing for health care, as well as more effective use of existing funds.*
- *Design and implementation of health information systems for disease surveillance.*
- *Delivery of quality services by health workers.*
- *Availability and appropriate use of health commodities.*

This document was produced by PHR*plus* with funding from the US Agency for International Development (USAID) under Project No. 936-5974.13, Contract No. HRN-C-00-95-00024 and is in the public domain.

September 2004

Recommended Citation

Castaño, Ramón, Ricardo Bitran, and Ursula Giedion. [Report Date]. *Monitoring and Evaluating Hospital Autonomization and Its Effects on Priority Health Services.* Bethesda, MD: The Partners for Health Reform*plus* Project, Abt Associates Inc.

For additional copies of this report, contact the PHR*plus* Resource Center at PHR-InfoCenter@abtassoc.com or visit our website at www.PHRplus.org.

Contract/Project No.: HRN-C-00-00-00019-00

Submitted to: Karen Cavanaugh, CTO
Health Systems Division
Office of Health, Infectious Disease and Nutrition
Center for Population, Health and Nutrition
Bureau for Global Programs, Field Support and Research
United States Agency for International Development

Abstract

Granting autonomy to public hospitals is expected to improve performance as managers can make decisions on behalf of their hospitals. It is also argued that autonomy frees up resources that can be directed toward priority health services and provide stronger incentives for hospitals to collect user fee revenues. However, incentives and regulations are required to avoid self-satisfying behavior. Resource mobilization can also be hampered if user fee revenues are offset with hospital-budget cuts, and equity can be negatively affected if hospitals give priority to better-off patients.

This paper reviews evidence on these rationales for hospital autonomy and their expected consequences on hospital performance. It finds no evidence on both, but negative effects on access to services by the poor are clearly reported. The paper also proposes a new monitoring and evaluation tool that takes into account the effect of autonomy on the availability of priority services and resource mobilization.

Table of Contents

Acronyms ix

Acknowledgments xi

Executive Summary xiii

1. Introduction 1

2. Concepts, Definitions and Country Experiences 3

2.1 Overview 3
2.1.1 Definitions 3
2.1.2 Rationales for Hospital Autonomization 4
2.1.3 Potential Limitations 6
2.2 Overview of Evidence from Previous Evaluation Research 11
2.2.1 Evidence from Govindaraj and Chawla (1996) 11
2.2.2 Evidence from Preker and Harding (2003) 12
2.2.3 Evidence from McPake et al. (2003) 12
2.2.4 Evidence from Russel et al. (1999) 13
2.2.5 Other Evidence from Developing Countries 13
2.2.6 Summary Analysis of Evidence from Developing Countries 14
2.2.7 The U.S. Experience with Vertical Dis-integration 15

3. Conceptual Framework for M&E of Hospital Autonomization 17

3.1 Relationship between Hospital Autonomization and the Availability of PHS 17
3.2 Available Tools for M&E of Hospital Autonomy 18
3.2.1 Chawla et al. (1996) Toolkit 19
3.2.2 Over and Watanabe Toolkit 19
3.2.3 Comparing Chawla and Over and Watanabe 21
3.3 Conceptual Framework for New Indicators 22
3.3.1 Inputs 22
3.3.2 Processes and Outputs 23
3.3.3 Outcomes 23

4. Indicators of Hospital Autonomization 25

Annex A. Inputs 27

Annex B. Processes and Outputs, Outcomes 37

Annex C. Bibliography 39

List of Tables

Table 1. Comparing Over & Watanabe and Chawla et al. Toolkits on M&E of Hospital Autonomy . 21

List of Figures

Figure 1. Relationships between Hospital Autonomization and the Availability of Priority Health Services 17

Acronyms

ALOS	Average Length of Stay
CEO	Chief Executive Officer
DRG	Diagnosis-Related Group
FTE	Full-time Equivalent
HMO	Health Maintenance Organization
HIV	Human Immunodeficiency Virus
NPM	New Public Management
PHS	Priority Health Services
PHRplus	Partners for Health Reform plus Project
RSI	Relationship-Specific Initiative

Acknowledgments

The authors would like to thank David Hotchkiss for his thorough review of the various drafts of this paper and in assisting with its development and Kate Stillman and Raj Gadhia for their efforts in coordinating the in-house technical review session on hospital autonomy at PHR*plus*. We would like to acknowledge the contributions from Nancy Pielemeier and various other PHR*plus* staff in attendance at this session for their valuable critique and comments on the conceptual framework. Finally, thanks to Linda Moll and Maria Claudia De Valdenebro for editing and formatting the report.

Executive Summary

Public hospitals in developing countries have traditionally been managed as administrative units of a larger hierarchy. A recent wave of hospital reforms in developing countries aims at turning them into autonomous entities, that is, reducing the Ministry of Health's direct control of hospitals and shifting the day-to-day decision making from the hierarchy to the hospital management team. It is expected that autonomy, thus defined, will improve hospital performance, as managers will have more flexibility to make decisions on behalf of their hospitals. It is also expected that if hospitals improve their performance, resources will be freed up for the health system to be re-directed towards priority health services, namely primary care and those services that have been proven to be cost effective. In addition, an autonomous hospital has a stronger incentive to collect user fee revenues if it is allowed to use them as it sees fit; this will help mobilize resources for the overall financing of the health system.

Unless some incentives and regulations are put in place, however, an autonomous hospital can be used for satisfying private interests of managers or other stakeholders. Resource mobilization can also be limited if the central government cuts the hospital budgets in the same amount the hospitals increase their user fee revenue. This would be the case if the rationale for granting autonomy were to reduce fiscal pressures on the central government. Besides, if households in the catchment area of the hospital are very poor, the prospects of mobilizing significant resources remain slim. Equity in the access to health care can be negatively affected if hospitals, in their effort to increase revenues from user fees, give priority to those patients who are more likely to pay. It can also be argued that once granted autonomy, hospitals would be exposed to a market environment that would force them to improve performance. But this is hardly the case when a public hospital holds monopoly power, stemming from its status as provider of last resort. But even in a competitive environment, exposure to competition will not necessarily yield the expected results, because public hospitals do not behave as predicted by the standard theory of the firm. In addition, the political visibility of hospitals makes it hard to penalize poor performers.

On the other hand, if the relationship between the payer and the hospital is turned into a contract-based one, additional difficulties will arise from the impossibility to write a contract that considers ex-ante all the contingencies in the contractual relationship. Lack of network coordination, loss of economies of scale in some processes, the costs inherent to the several alternatives of payment mechanisms, and the costs of teaching and research, are additional problems that arise or worsen as a consequence of autonomization.

Most of the research on hospital autonomization has addressed the question of its effect on improved performance, whereas resource mobilization has received less attention. However, most empirical evidence has not demonstrated these relationships or the evidence is suggestive (but not conclusive) of some positive impact on performance. On the other hand, little or no attention has been given to the impact of autonomization on the availability of priority health services and improved mix of services. Regarding impact on equity, the empirical evidence shows that autonomous hospitals start giving priority to paying patients, and that waivers and exemptions of user fees have been rather ineffective in reducing access barriers to services by the poor.

Implementation of an autonomization policy has been less ambitious than planned, while some suggest that in a number of instances implementation has advanced to differing extents through the several axes of autonomy, which can lead to dysfunctional organizations. These two logics probably help explain the limited evidence of positive impact of autonomization on hospital performance.

This paper proposes a new monitoring and evaluation (M&E) framework that builds on previous work by other researchers, and takes into account the effect of autonomy on the availability of priority services and resource mobilization. The framework considers three types of indicators: inputs, processes-outputs, and outcomes. The indicators include two complementary perspectives: one relates to the hospital itself, and the other relates to the system at large. Input indicators aim at giving a clear idea of the nature and extent of autonomy, as well as the characteristics of the environment surrounding the hospital, including market structure, payment mechanisms, governance arrangements, macroeconomic, demographic, epidemiologic and political indicators. Process-output indicators aim at detecting efficiency gains at the hospital level. Outcome indicators measure changes in efficiency, quality, and equity, at the hospital level and at the system level. In this section, the M&E framework adds the indicators required to account for the effect of autonomization on resource mobilization and the availability of priority health services. The paper comprises qualitative as well as quantitative assessments, as a checklist that allows for the comparison between hospitals in a country, or between different countries. It is expected that lack of data in many hospitals in developing countries will make it difficult to measure quantitative indicators, but these have been kept as simple as possible to use readily available data.

The paper is organized as follows: a brief introduction highlights the need for new M&E tools that account for the effect of autonomization on resource mobilization and the availability of priority health services. Chapter 2 provides definitions for autonomization, and other three terms used in the paper; it further reviews the rationales and drawbacks of autonomization, and provides a brief overview and analysis of the available empirical evidence on hospital autonomy. Chapter 3 reviews the existing M&E tools and provides the conceptual framework for the proposed M&E approach. Indicators are provided in detail in Annexes A and B.

1. Introduction

Health care sector reforms are dynamic processes, involving many actors and interactions among the actors. In the context of such intense activity, continuous monitoring and evaluation (M&E) of these processes are vital to ensure that expected outcomes are being achieved – or to understand why unexpected outcomes occur, and what mid-course adjustments must be made to get back on track toward realizing policy goals. This is true not only for overall health sector reform, but also for subsectoral reforms that affect the broader system.

Granting autonomy to public hospitals is a subsectoral reform that aims to give the hospitals the latitude they need to make decisions that will allow them to function efficiently and effectively, while at the same time keeping their public nature and their concern for social welfare.

As will be discussed in greater detail below, three rationales underlie hospital autonomization: 1) to improve hospital performance, including greater efficiency and quality in the production of health care services; 2) to improve resource mobilization through cost recovery; and, 3) to improve the mix of health care services provided. One key implication of this last rationale, particularly for the health care systems in developing countries, is a stronger emphasis on priority health care services (PHS) and a lesser emphasis on inpatient/tertiary care. In light of the need for better priority health care, it is surprising to find that very little research has been done on the links between hospital autonomization and larger investments in PHS. Although some tools have been developed to assess the implementation and impact of hospital autonomization, they do not measure the net effect on the production of PHS.

This paper proposes a tool intended to provide information about the effects of hospital autonomization on investment in PHS. In doing so, it does not simply add the indicators that inform about shifting the service mix to PHS; on the assumption that hospital autonomy must succeed in order to free up resources for PHS, it also reviews existing input, process, output, and outcome indicators of hospital autonomization, and proposes new indicators or modify ones suggested by other authors.

Two existing M&E tools that are relevant to this effort are those published by Chawla et al. (1996) and Over and Watanabe (2003). The latter is based on the conceptual framework developed by Harding and Preker (2003). In spite of the tools' detailed approach to assess hospital autonomization, they do not include indicators to inform about how autonomization improves or decreases funding and provision of PHS. Some research has been done to analyze the impact of creating a basic benefit package on the provision of PHS, but these studies are more focused on the service mix at the hospital level, not at the system level (see, for example, Kamwanga et al., 2003).

A limitation of these toolkits is that they rely on data about inputs and outputs that are collected from secondary sources, whereas some data require further analysis. For example, having an explicit statement of mission and vision, and having disseminated it among hospital personnel – a classical question to inquire about strategic issues – easily gets a "yes" response. However, there is a wide variation of intensity with which these tasks are actually carried out.

Besides this, there is a large measurement bias due to informal processes that influence managers' decision making. Much of this variation is not captured with 1-0 variables, and the complexity of the interacting factors that determine the decision-making process is hard to summarize in a 1-0 or even a categorical variable. Thus, additional qualitative information has to be collected in order to get a more comprehensive view of the autonomization process and outcomes.

Another limitation of the two earlier M&E tools is that they are strongly dependent on availability of data at the hospital level. Whereas hospitals in developed countries have adequate data to build most of the indicators proposed in these tools, public hospitals in developing countries lack the management information systems that produce such data. Thus, it is likely that those who want to apply the tools will not be able to estimate many of the indicators. Consequently, it is necessary to simplify the tools so as to make the indicators realistic, valid, reliable, verifiable, and relevant.

In addition, the earlier toolkits lack three crucial elements:. First is a delineation of the structure and role of boards of directors (key players in management accountability), including how these boards represent the agendas of communities, government, and other stakeholders; how these agendas interact; and how the boards influence hospital performance. Also missing is information about the interaction among autonomous hospitals which would make it possible to design a network that efficiently combines complementarities for referrals and counter-referrals while simultaneously balancing competition among these hospitals. A third missing piece is the analysis of other predictors of good manager performance that are beyond control by the board of directors or regulatory bodies. This is clear in a case where boards and other regulators are weak or ineffective but hospital performance improves nonetheless, because the manager seeks to maximize his/her prestige and gain a high-ranking position in the government or in an international agency. The question is: what predicts that a manager will be successful in improving hospital performance irrespective of the role of accountability mechanisms?

In summary, this paper proposes a new M&E tool for hospital autonomy that builds on the previous work of Chawla et al., and Over and Watanabe. This paper has two main objectives: on the one hand, to fill some of the gaps of earlier approaches regarding the autonomization policy itself, and simplify these approaches. On the other hand, it proposes new indicators to take into account the system-wide effects of shifting the emphasis from inpatient/tertiary care toward priority health services.

2. Concepts, Definitions and Country Experiences

2.1 Overview

This section defines hospital autonomy, the related concepts of corporatization and privatization, and other types of public hospital reforms. It also reviews the rationales for hospital autonomization that have been raised by different authors, and the potential limitations of these rationales. The links between hospital autonomization and the availability and utilization of PHS by the poor is further analyzed.

2.1.1 Definitions

To define hospital autonomization, it is useful to think of a continuum between two extremes: at one end is a non-autonomous hospital; that is, an administrative unit dependent on a higher authority, usually the health authority of a regional or national government, for decision making and budgeting. The hospital director is an administrator who follows orders from the higher level. At the other end is a totally autonomous hospital, a freestanding organization that is owned by a private entity (either for- or not-for-profit). A public hospital, by definition, cannot be in this latter category, but it can enjoy diverse degrees of autonomy regarding governance and financing, placing it somewhere between the two extremes.

Autonomy implies a move away from the governmental administrative unit, that is, a separation between the funding agent (the Ministry of Health or the local health authority) and the hospital. The new relationship between payer and provider is not one of levels in a hierarchy, but of a connection such as an agreement or a contract. Thus, ***hospital autonomy can be defined as a reduction in direct government control over public hospitals, and a shift of the day-to-day decision making from the hierarchy to the hospital management team***. It can be summarized as "letting managers manage" (Harding and Preker, 2003).

As implied by the continuum analogy, autonomy is not an absolute state, in which a hospital *is* or *is not* autonomous (Collins et al., 1999), but rather a matter of degree. It may be granted to the hospital as a whole, or to individual components of hospital management; for example, a hospital may be able to set its own strategic plan but not its operations budget. Many "autonomous" public hospitals in developing countries can decide how to invest the user fee revenue but have no control over hospital labor, which is retained by the central government. In other words, a hospital can be more autonomous in certain functions and less autonomous in others, and one hospital can differ from others regarding levels and intensities of autonomy in each of these functions (Chawla et al., 1996).

A more advanced stage of autonomization is called corporatization by some authors. Eid (2001) calls it a "hybrid organizational form" by which autonomy is exerted but public ownership is maintained. Harding and Preker (2003) define a corporatized entity as one mimicking a private

corporation that works within a hard budget constraint and full financial accountability, but retains public ownership and fulfills social and public obligations. An extreme form of autonomization is that of privatization, by which a hospital losses its public nature and is completely transferred to private owners, either for-profit or not-for-profit.

Autonomization can take place with or without decentralization of the broader health care system. Even when a centralized health system is decentralized into regional or local subunits, hospitals can be kept under the command of these subnational units and lack any autonomy to make their own decisions. For example, the Chilean health system has decentralized the Health Services to the regional level, but local hospitals are kept as administrative units of the municipalities, so hospital administrators have no decision-making authority.[1] It can also be the case that hospitals are granted autonomy, i.e., they have been separated from the payer (the national, regional, or local authority), but the payer keeps its centralized structure.

Three more definitions deserve to be addressed at this point: First, **priority health services**, which in the context of this paper mean services that address child health, maternal and reproductive health, HIV/AIDS and other infectious diseases. In a more general sense, PHS include all those interventions that yield the largest benefit (in terms of health status) per dollar invested.

A second definition is that of a **contract**. It is a voluntary agreement between two or more parties, supported by a written document and enforced by law. In the context of hospital autonomy it is common that the relationship between payer and provider is supported by a contract. However, the way the contract shapes the relationship varies. In other circumstances, contracts are nonspecific agreements, or do not exist at all.

A third definition is that of **hospital performance**, which in the context of this paper means the overall outcome produced by the hospital in terms of efficiency and quality. Regarding efficiency, optimal performance implies the use of, 1) the optimal combination of inputs for a given output (technical efficiency) and, 2) the least costly combination (economic efficiency). Regarding quality, optimal performance implies the best level of structure, process, and outcome indicators, given the available resources. Regarding allocative efficiency, it involves combinations of inputs and outputs that maximize social welfare but implies resource allocation at a sector-wide level, not at the hospital level.

2.1.2 Rationales for Hospital Autonomization

Public hospitals are major players in all health care systems, because they consume a large portion of the health care budget. In western European countries, this share is close to 50 percent of total health care budget, whereas in the former Soviet Union this figure is about 70 percent (McKee and Healy, 2002). At least 50 percent of the 48 countries in sub-Saharan Africa spend 45 percent or more of public sector budget on hospitals (Peters et al., 2000). In Ecuador, Guatemala, Djibouti, Tunisia, and Yemen, about half of health care dollars go to hospitals (Nandakumar et al., 2003). Expenditure on hospital care is said to be cost-ineffective, because it focuses more on curative and rehabilitative care and its impact on a poor country's burden of disease is limited. However, hospitals have political visibility, and the large budgets they consume are a symptom of their importance in the political process (McPake, 1996).

[1] Only recently, in 2004, has a reform been passed that will grant autonomy to Chilean hospitals.

Hospital autonomization as a public policy is an extension of the experience gained in two preceding waves of state reform, namely privatization of state-owned enterprises and privatization or corporatization of public utilities. It is expected, based on the previous experiences, that autonomization will yield similar results in the public hospital sector, i.e., improvements in performance, greater efficiency in the mix of services produced, and improved resource mobilization.

The following subsections discuss various rationales for hospital autonomization, including finding new operating efficiencies that save resources and mobilizing new resources through fee collection. In middle-income countries, where the health care funding situation is not so dire as in low-income countries, the rationale is typically to improve efficiency and quality through market exposure or contract-based accountability; in low-income countries, hospital autonomy aims mainly at mobilizing resources through fee collection – along with setting up an exemption scheme to guarantee financial protection to vulnerable households.

Improving efficiency and quality of care

It is expected that public hospitals will improve performance when granted autonomy. This expectation rests on two main assumptions. The first assumption is that non-autonomous hospitals are limited by the rigidity of the hierarchical governmental organization, and such rigidity does not allow the hospital administrator to make decisions that would improve performance. As said before, "letting managers manage" will open the door to proactive decision making. The second assumption is that, once granted autonomy, public hospitals will be exposed to competition by rival hospitals, which will pressure them to improve quality and efficiency in order to survive.

There is a caveat to the second assumption: when a hospital is separated from the purchaser (either the national, regional or local health authority that funds the hospital), its move toward efficiency and quality depends on the market environment. If there are multiple hospitals with which the funding agent can contract, the newly autonomous hospital will have to be competitive, i.e., it will have to maintain a certain level of quality and efficiency. If it does not, it will lose patients – and revenues – to better-performing competitors.

Alternatively, if the hospital is the only provider in the area and the government is the only purchaser, there is no competition but rather a bilateral monopoly. However, even in the absence of competitive market pressures, performance can be improved by relying on mechanisms that promote greater accountability, such as a contract or a performance agreement.

Resource mobilization through cost recovery

Fee collection is a potential revenue generator for autonomous hospitals; indeed, governments *expect* these hospitals to collect cost recovery and user fees (hereinafter called user fees, unless explicitly differentiated) in order to ease the funding burden on the national budget. However, governments must provide an incentive for the hospitals to do so. The primary incentive is to allow hospitals to use all or part of the additional revenues as the hospitals see fit. So that the imposition of fees does not preclude access to health care by poor and other vulnerable groups, governments must design a basic benefit package of PHS that are fully covered by the government when demanded by the targeted groups. Other services, outside the benefit package, are to be paid by households, but a system of fee exemptions to protect groups should be established and fairly implemented. Better-off households will have to pay user fees for services included in the benefit package and cost-recovery fees for services not in the package. In this way, fee payments will both generate additional revenues for the health care system and play a role in improving the impact of the health care system on the worse-off.

New mix of services provided at the system level

It is assumed that autonomous hospitals will find ways to produce the same output with less resources; this improved efficiency will free up resources that can be reallocated to other uses. In addition, it is assumed that autonomous hospitals will generate additional revenue by charging user fees. The increased ability of hospitals to fund themselves through greater operational efficiencies and revenue-generating fees will reduce the burden on the national health care budget to fund hospital care and allow the health system to shift emphasis from inpatient/tertiary-care to other, more cost-effective services, including PHS, preventive and curative ambulatory care, and public health interventions (Kamwanga et al., 2003). The new combination of health care services produced at the system level will further ease the financial burden on hospitals – and it is expected to have a better impact on the overall health status of the population.

Other rationales

Country-level policymakers must be concerned with the issue of overall fiscal balance. To the extent that public hospitals consume a significant share of fiscal resources, cautious reduction of the public hospital budget is a way of achieving fiscal balance. Autonomization is one way to reduce the public hospital budget, by allowing individual hospitals to improve their financial standing through the methods discussed above.

A relevant question arises regarding this latter point: Is autonomization an act of deregulation by which the government acknowledges its inability to deal with public hospitals, or is it a step that has been preceded by a strengthening of its regulatory capacity (Hotchkiss, personal communication, 2003). This issue is clearer when autonomization in developing countries is compared to that in developed countries. In the latter, a strengthening of government's regulatory capacity preceded (by many decades) the autonomization and decentralization processes, whereas in the former this is not the case, and autonomization has been advocated more as a result of pressures to reduce spending (Polidano, 1999). Therefore, it could be argued that autonomization is more an act of de-regulation by which the government capitulates on its responsibilities to provide social services in order to respond to external pressures for fiscal balance.

2.1.3 Potential Limitations

However sound the foregoing rationales might seem, it is important to highlight the potential drawbacks that can arise from the implementation of hospital autonomy. Priority health services can be negatively affected if hospitals are not interested in providing them. Resource mobilization can prove minimal for a number of reasons. Equity can be negatively affected because hospitals might give preference to paying patients or to more profitable services. And forces to improve performance can be weakened by the resulting environment an autonomous hospital is exposed to, or the accountability devices put in place to control manager's decision making. A more detailed analysis of these drawbacks is addressed in the following sections.

Spending on priority health services

One should not expect that the managers of autonomous hospitals will supply more priority health services than before autonomy was granted unless adequate incentives are put in place by the payer. The most explicit incentive is that of a basic benefit package, which defines which interventions are to be provided by public health facilities at zero or reduced price. But patients also will require interventions not included in the benefit package, and denying care to those patients who

cannot pay puts health care providers in an untenable position. Even regarding covered benefits, many benefit packages prove to be incomplete prioritization tools, as their descriptions of services frequently lack specificity. For example, does of "perinatal care" include coverage of expensive state-of-the-art neonatal intensive care?

Additionally, although focusing spending on PHS should achieve a more effective mix of services provided (in terms of impact on overall health status), it will not change at all the political dynamics that affect hospitals. For example, if even a strong government proposes to close a tertiary hospital in order to re-target health care resources to primary care, strong political opposition is likely to arise and the decision to close might have to be reversed.

Furthermore, in the interest of generating revenues, hospital managers, board members, or hospital staff might engage in behavior that shortchanges the delivery of priority services. For example, if a public hospital located close to an affluent area sets up a high-tech facility for cardiovascular surgery in the expectation that it will attract high-income patients who can pay out-of-pocket or who are covered by private generous health insurance schemes, hospital manager and professional staff incentives to provide PHS will be strongly reduced.

Limited resource mobilization

As reasoned above, granting autonomy to hospitals creates the incentive for them to increase user fee revenues. This expectation rests on the assumption that if hospitals are allowed to keep the fee revenue, they will be more proactive in collecting them. There are many instances where hospitals have managed to mobilize additional resources. For example, in Rajasthan (India), a new type of institution, Medicare Relief Societies, were created; these societies collect user and other fees from the community and better-off households, earning valuable additional revenue that has allowed them to deliver free care to indigent patients (Sharma and Hotchkiss, 2001). In Indonesia, it was shown that, after shifting to autonomous status, hospitals were able to increase user fee revenues, although such increases were not sustainable in the short run (Bossert et al., 1997).

However, the expectation to mobilize resources might fail to materialize in three particular circumstances. First, if households' incomes in the hospital's catchment area are severely limited, it is unlikely that demand for services beyond the basic package will be enough to generate additional revenue (Chawla et al., 1996). Second, it could be the case that the exemption policy to protect households from financial distress is not sensitive enough to detect the really poor, or that the user fees that have been established for the poor still represent a large share of their cash income. In both cases, a strong negative impact on access by the poorest will be inevitable, and autonomization will be politically unsustainable. Consequently, additional resources will not be mobilized (Kamwanga et al., 2003).

Lastly, if additional user fee revenues in a given hospital are offset by central budget cuts in resource allocations, the hospital will be discouraged from further efforts to keep or increase user fee revenues. This creates a trade-off between two of the goals of autonomization in low-income countries, namely resource mobilization and reduction of fiscal pressures: offsetting user fee revenue may reduce fiscal pressures on central budgets but will inevitably discourage local resource mobilization (Batley, 1999).

Equity concerns

One should not expect that autonomy by itself will lead public hospital managers to give priority to serving the poor and other vulnerable groups; on the contrary, unless special mechanisms, such as Cambodia's Equity Funds, are put in place, managers may actually limit access by the poor in order to maximize cost recovery from paying patients (Bitran, 2002). Experience in Zambia shows that public hospitals want to invest more in high-cost wards on the expectation that they will attract better-off patients that will generate additional revenue. Given that hospitals can only charge regulated prices that are set below cost, paying patients end up being subsidized by the poor (Kamwanga et al., 2003).

Depending on the way incentives are set, and if care for the poor is adequately paid to discourage cream skimming behavior, it can be expected that priority health services and the poor will be protected, even given priority, in public sector health facilities. But the question remains that even if the adequate set of incentives can be devised, is autonomy a necessary condition for this prioritization to take place? In addition, autonomization is not a sufficient condition because other strategies have to be put in place for PHS and populations to be put in the forefront. It is clear that a basic benefit package and targeting services to the poor are necessary to ensure equity.

The resulting environment

It is assumed that once autonomized, hospitals will be exposed to market pressures in a competitive provider market. Without such market accountability, an appropriate set of incentives and regulations is needed to achieve the benefits of autonomization. However, the absence of market pressures makes incentives and regulations more difficult to design. In addition, the regulatory capacity of the health authority has to be strenghtened.

If splitting the relationship between purchaser and provider results in a competitive provider market, it is more likely that the competition will lead to improvements in efficiency and quality. Govindaraj and Chawla (1996) suggest that for autonomy to succeed, hospitals would have to be exposed to the same competitive conditions of the private sector.[2] Nonetheless, most of the markets for public hospitals are very limited in terms of competition, either because the hospital is the single provider in a geographic region, or because it is the single provider for the poor in a region with other providers.

Furthermore, an important caveat has to be highlighted: the market exposure argument assumes that public hospitals behave like typical firms, i.e., they respond as if they were profit maximizers. This is hardly the case. The most obvious counterargument is that public hospitals do not have "owners" in the sense that a private firm does. Thus, public hospitals may be driven by different objectives and gaining knowledge about them helps better to predict the responses of public hospitals to market signals.

Moreover, even if public hospitals behaved like profit-maximizing firms, in the event that the market resulting from the separation between purchaser and provider is a bilateral monopoly (a single provider, the public hospital; and a single purchaser, the health authority), the expected effect of market exposure on hospital performance is attenuated. The absence of profit maximization complicates even more this dynamic. Monopoly power will allow the hospital to decrease

[2] In the context of this paper, a provider market refers to a market where the purchaser is the payer, not the patient; thus, it always refers to internal markets.

responsiveness to legitimate consumer expectations, and inefficiency will be difficult to reduce because there are no competitors willing to improve performance to win a contract.

In the presence of a monopolistic provider and the consequent lack of market accountability, the ability of the health authority to use alternative accountability devices (such as a contract or a performance agreement) is also severely limited. This is because the purchaser has no alternative other than to purchase services from the public hospital; if it stops contracting with the hospital, the community will be left without a local provider, and they will immediately react to keep their facilities open. Consequently, poor performance is not effectively threatened with contract termination and the only effective threat is termination of contract with the hospital manager.

Contract incompleteness

Beyond the presence or absence of competition, there is an additional problem: contract incompleteness, that is, the difficulty to write a contract that takes into account all the possible future contingencies. It is a pervasive problem in transactions that take place in health care markets. A contract by itself is not sufficient to improve performance, because many of the outcomes are unobservable and unverifiable. This implies that the expected improvements in performance are not likely to be gained if competition cannot penalize hospitals with poor outcomes and reward those with satisfactory ones. At most, output is the only measure that can be contracted, but it is clear that this measure is not necessarily related to better outcomes.

The manager's self-interest

Autonomy is necessary for a hospital manager to engage in wise procurement practices, that is, in relationships with providers of inputs like drugs, supplies, spare equipment parts, food, and other consumables. Wise procurement includes, for example, developing strategic alliances with other hospitals for volume purchasing to improve bargaining power and obtain volume discounts when procuring drugs, etc. However, autonomy alone does not mean this will happen; adequate incentive and regulation structures must also be in place. This brings us back to the objective of the hospital and the hospital manager. If the manager fails to implement operating efficiencies and instead, for example, accepts kickbacks from an input provider, this behavior will impinge badly on hospital performance.

If a public hospital is granted autonomy in circumstances where the health authority's regulatory capacity is limited, and given that the hospital's objective differs from profit maximization (or cost minimization), then an additional accountability device is necessary: a board of directors. The main function of this board is to hold the manager accountable for hospital performance and to prevent the manager from putting his/her own interests before those of the hospital. The better the board represents the different hospital stakeholders, the more accountable the manager will be. It is expected that if hospital performance does not improve, the board will remove the manager. Of course, board members can also operate in their individual self-interest, and the board as a whole can espouse an agenda that conflicts with the best interests of the community. In this case, one would hope that the manager operates in the hospital's interest and can lead the hospital to improve its performance – but this requires autonomy. Related to this issue is the question, what are the predictive variables that allow for an ex-ante screening of potential managers, so that only those truly committed to better hospital performance are selected?

Lack of network coordination

Another threat to efficiency gains from hospital autonomy has to do with the coordination among hospitals and care settings. Within an integrated hierarchy, coordination is easier to implement, because the links between several institutions and the structuring of the network are guaranteed by a central coordinator. However, when hospitals are autonomous, such coordination can only be supported by incentives and regulations. A typical conflict arises when two hospital managers want to scale up facilities or upgrade technology with the expectation to increase demand: redundant supply of high-tech services will result in idle capacity and higher average costs, which will end up creating a heavier burden for the central budget.

Lack of coordination can also result in inefficient referral systems and reduced quality, which negatively affects the possibility that primary care services are adequately complemented with inpatient/tertiary-care. Thus, even if budgets are focused on priority health services, the necessary coordination for specialized components of those PHS is diluted among disconnected pieces of a public network. For example, in order to achieve better outcomes, intensive care for eclampsia has to be tightly coordinated with primary care providers; a poorly organized referral/counter-referral system does not allow for this to happen. Another concern is that of under-provision of specialized services related to PHS, like referral lab tests for tuberculosis or HIV.

Loss of large-scale bargaining power

Economies of scale are another issue that is negatively influenced by autonomy. Many processes – procurement of drugs and supplies, labor union negotiations, risk pooling, etc. – yield lower average costs when they are undertaken in large quantity (i.e., at the public hospital-system level); if undertaken at the individual hospital level, they result in higher average costs. If autonomous hospitals operate individually, they are likely to incur higher operating costs, at least for these particular processes.

Costs of payment mechanisms

Regarding incentives and regulations to guide autonomous hospitals, it is important to emphasize that the most effective way to affect their behavior is through the mechanism by which they are funded. Non-autonomous hospitals are typically funded through budget allocations based on historic costs. This arrangement does not motivate hospitals to increase efficiency because the more costly they are, the larger the budget they receive. Put another way, they have no incentive to reduce costs, because it could result in budget cuts. A less blunt funding mechanism is to pay prospective budgets based on expected demand. Other alternatives include a fixed amount per bed day per patient or per diagnosis-related group (DRG), a payment for each service provided (fee-for-service), or a monthly payment per each individual in the catchment area of the hospital.[3] These payment mechanisms entail information requirements and processes whose costs far exceed the administrative costs of historic budgeting. The additional costs related to alternative payment mechanisms are a potential source of inefficiency, mostly if they exceed the benefits of improved performance.

[3] See Wouters and Leighton (1998) for a detailed analysis of alternative provider payment methods.

Teaching and research

Most tertiary care public hospitals in developing countries are also teaching centers for health care worker trainees. A hospital's relationship to a university is bi-directional: the hospital provides services to the university, and the university provides inexpensive labor to the hospital in the form of trainees. Not infrequently, granting autonomy to tertiary care hospitals puts the costs of teaching and research at the forefront, and these functions are threatened. However, the teaching and research functions of public hospitals deserve explicit consideration of costs and benefits to society to make more transparent their relationships with autonomous hospitals. A more explicit approach to these functions does not imply that autonomous hospitals should no longer provide them, but that their costs must be clearly covered.

Complementary reforms

Although hospital autonomization is expected to have positive effects on hospital performance and the availability of priority health services, it is not in and of itself a magic bullet for the achievement of this goal. Complementary reforms may also need to be put in place to create the necessary incentives and environment to make autonomy work better. The two key reforms regard payment mechanisms and governance arrangements. Payment mechanisms imply a shift from historic line-item budgeting so as to give the manager the necessary flexibility that decision making requires, but also to expose the manager to a hard budget constraint. Governance arrangements have also to be created, as discussed above, so that accountability mechanisms are in place to control manager's decision-making.

2.2 Overview of Evidence from Previous Evaluation Research

Although there is less empirical evidence on hospital autonomization than one would desire, some relevant research is available for analysis. This section reviews these works and highlights the most pertinent findings. The studies reviewed are the following:

2.2.1 Evidence from Govindaraj and Chawla (1996)

Govindaraj and Chawla carried out five country case studies (Ghana, Kenya, Zimbabwe, India, and Indonesia); in each country, one or several hospitals were analyzed using the M&E toolkit by Chawla et al. (1996). They conclude that although it is difficult to separate the effects of a poor design from those of a poor implementation, the overall effect of autonomization on hospital performance seems to be limited. However, this could be attributed to the short period of time that elapsed since the granting of autonomy.

They also point out that resource mobilization was the major reason for granting autonomy status in most cases. This implied a shift from line-item, to block grant budgeting; in most cases, additional funding from user fee or cost-recovery revenues was very limited, although Indonesia was a remarkable exception to this finding. In all cases, human resources were maintained under varying degrees of central control. Although the studies show no discernible effects on efficiency, quality, and accountability indicators, they found equity indicators negatively affected or unaffected. Data limitations of the study are relevant for further studies.

2.2.2 Evidence from Preker and Harding (2003)

Eight country case studies (United Kingdom, New Zealand, Victoria (Australia), Hong Kong, Malaysia, Singapore, Indonesia, and Tunisia) were carried out by different authors following the measurement and evaluation toolkit proposed by Preker and Harding (2003). Although the toolkit includes indicators of hospital response and impact of reform, the case studies are focused on implementation.

Implementation is assessed in terms of degree of achievement in each of the five major elements of hospital structure, i.e., residual claimant status, decision rights, market exposure, accountability, and unfunded mandates (these will be explained in the next section). The authors count as successful implementation a process that takes a hospital towards full autonomy, i.e., a privatized hospital.

Given that impact is difficult to analyze because of data availability and the effect of covariates that are difficult to isolate in a small number of units of analysis, the case studies are not strongly conclusive about the effects of autonomization.

Hawkins and Ham (2003) summarize the eight studies. They found that Singapore, Hong Kong, Tunisia, Malaysia, and the state of Victoria were the most successful cases. These cases showed improvements in output and quality, but also increases in costs and salaries, and a confounding effect of reforms in payment systems. The UK experience is considered as partially successful in terms of efficiency, but there is also a confounding effect of other reforms. Less successful cases were those of New Zealand and Indonesia, where implementation of several elements of reforms was not completed, or even reversed.

In a further analysis of these case studies and other additional cases, Jakab et al. (2002a) underscore the importance of consistency in implementation across the five elements of organizational structure. Whenever a hospital made important progress in some of the elements but little progress in others (for example, decision making about human resources was kept at the central level), not only were reforms less successful but also organizations were at risk of becoming dysfunctional.

An application of this measurement and evaluation tool to transition economies by Jakab et al. (2002b) shows a clear example of dysfunctional organizations as a result of inconsistent implementation in the five elements of organizational structure. One particular issue was that rigidities in input use were kept largely unchanged from the previous pattern of central planning. Thus, input-based central planning created conflicts with the supposedly performance-based funding.

2.2.3 Evidence from McPake et al. (2003)

McPake et al. (2003) provide evidence suggestive of a positive impact of autonomization on quality and efficiency in five hospitals in Bogotá, Colombia. A widespread health care reform was passed in this country in 1993, which included granting autonomous status to public hospitals. Although the positive impact is difficult to attribute to autonomization itself, it can be said of this study that payment reforms, a major driver of changes in output, were more likely to exert their effects in a context of autonomous hospitals.

The authors also highlight that limitations such as availability and quality of data kept them from conducting more elaborate statistical analyses and reaching robust conclusions. Given the long time span they intended to analyze (1990 to 1998), changes in accounting procedures and policies during

that period make it difficult to compare or interpret trends. They also emphasize the need for qualitative research methods to achieve a better understanding of the dynamics of purchaser-provider relationships.

2.2.4 Evidence from Russel et al. (1999)

This study summarizes the finding of five country case studies: Ghana, Zimbabwe, India (Tamil Nadu), Sri Lanka, and Thailand. Although the study focuses on the implementation of New Public Management (NPM) reforms in the health sector, the findings are relevant as far as public hospital policy is concerned. The authors show that, in most cases, the NPM reforms did not enjoy strong political support, but even if they did, countries lacked the technical expertise to implement these reforms. They also emphasize the need to rebuild government regulatory capacity and strengthen information systems.

Batley (1999) summarizes the study carried out by Russel et al. and other studies in several areas of public management that were part of a big project to analyze the implementation of NPM reforms in developing countries. He shows that the separation between purchaser and providers is unsuccessful, largely because only one side of the liberalization equation is implemented, i.e., granting autonomy to the provider side. The other side of the equation, i.e., strengthening the regulatory capacity on the purchaser side, has been left unattended. This has led to lack of control over autonomous, corporatized or privatized entities. He also considers that the transaction costs of the new contract-based relationships outweigh the gains from autonomization.

2.2.5 Other Evidence from Developing Countries

Ssengooba et al. (2002) analyzed three private not-for-profit and public pairs of hospitals in Uganda on the assumption that the better performance of the private ones is explained by their larger autonomy as compared to their public counterparts. Although the study confirms that hypothesis, it cannot be concluded that improving autonomy to public hospitals will make performance similar to the private ones.

Kamwanga et al. (2003) analyzed five autonomous hospitals in Zambia. They found no concrete improvements in hospital performance and little reduction of hospital dependence on central budgets, given their limited capacity to mobilize resources from users. Even worse, autonomy to arrange the mix of services has stimulated hospitals to focus efforts on paying patients at the expense of restricted access to the worse-off. This paradoxical effect is worsened by the fact that these services are subsidized with the block transfers they receive from the central government, which are intended to guarantee access to the poor.

Eid (2001) analyzed the corporatization of public hospitals in Lebanon, with a major focus on how the boards of directors were designed and how they operate. She found limited decision rights at the board level, a potential for hospital managers to take advantage of information asymmetries to advance their agendas, and a set of ambiguities that allow for a wide variance in outcomes that is determined by the personalities in place, rather than on clear regulations and institutions.

Arroyo (1999) analyzed the impact of autonomization on access by the poor to public hospitals. As the reform was intended to improve resource mobilization at public hospitals, the hospitals started to charge user fees with an exemption mechanism. However, this exemption mechanism was carried out by social workers who enjoyed wide discretion in their decisions. As a result, the highest income

group increased its share of hospital revenues from 35 percent to 53 percent between 1988 and 1997, whereas the lowest decreased from 25 percent to 20 percent. On the other hand, competition between hospitals created redundant supply of services and undermined referral networks.

2.2.6 Summary Analysis of Evidence from Developing Countries

Three main questions arise from the studies analyzed in this section: 1) is there evidence that hospital autonomization was implemented as planned? 2) did expected changes as a consequence of autonomization actually occur? 3) are these changes attributable to hospital autonomization? The following paragraphs will focus on each of these questions.

Is there evidence that hospital autonomization was implemented as planned?

Although most autonomization processes seemed ambitious at their outset, they turned out to be rather limited. Perhaps the most recurrent finding is that autonomy was limited to the hospital's right to make decisions about user fee revenue, whereas decisions about human resources were kept at the central level. On the side of government regulatory capacity, it is clear that little improvement has been made. Jakab and colleagues underscore the importance of consistency in implementation across all the components of hospital structure. This implies that, no matter if autonomization was planned correctly, if implementation does not go in lockstep across all those components, the chances of creating dysfunctional organizations are high.

Another concern that is ignored in the reviewed empirical studies is the articulation among the various actors, (i.e., health system decision makers, hospital managers, international donors, and other agencies) of the rationales for hospital autonomization. A poor articulation among these stakeholders is also likely to lead to dysfunctional organizations.

Did expected changes as a consequence of autonomization actually occur?

The studies analyzed indicate that the intended broad effects of autonomization on hospital performance, namely resource mobilization and an improved mix of services, are largely absent. Even in the cases where more aggressive implementation was undertaken, no clear cause-effect relationship was detected that attributes the observed changes to the granting of autonomous status. The fact that in most cases central government's regulatory capacity was not strengthened as required not only helps to explain the poor outcomes of the reform, but also emphasizes that one key component of the policy was not adequately implemented. And Jakab and colleagues point to lack of consistency in implementation across the five components of hospital structure as an explanatory variable to lack of success.

But even more worrisome is the fact that unexpected changes were more evident than expected changes. Namely, a negative impact on equity in access to hospitals by the poor was clearly evident in Zambia, Peru, and the countries analyzed by Govindaraj and colleagues.

A key omission in all the studies analyzed is the effect of hospital autonomization on the availability and use of PHS by the poor. Although this issue was addressed in the Zambia case, it was limited to the hospital setting. It could be argued though, that most hospitals in developing countries provide some PHS to the poor, and that these services are not necessarily tertiary-care sort of services (for example, antenatal care, well-baby clinics, family planning services, and so on). However, even if those services were strengthened as a consequence of autonomization, the available evidence does not focus on this particular issue. Beyond this, the studies are completely silent about the effects of

autonomization on outpatient, non-hospital-based priority health services. Thus, although there is a theoretical basis to consider that autonomization can lead to improved availability of PHS and their use by the poor, the empirical evidence does not support or reject that proposition; it is just ignored.

Seemingly, one would not expect that improved availability of priority services is an explicit rationale for hospital autonomization in policymaker agendas. It appears that the more evident rationales are resource mobilization (Chawla et al., 1996), or a non-overt response to external pressures for debt payment (Batley, 1999).

One would argue that the scant evidence on the expected effect of hospital autonomy on hospital performance and resource mobilization is explained by the dashed lines of Figure 1 (see Section 3). Namely, the expectation that increasing user fee revenues would lead to budget cuts, or the actual cutting of the budget, explains that hospitals are not strongly incentivized to mobilize resources, or such mobilization was not sustainable because budget cuts disincentivize further efforts.

Are these changes attributable to hospital autonomization?

This question is easily answered from the summary points in the previous heading. That is, the lack of evidence of the effects of autonomization hardly calls for the consideration of attributable effects. However, evidence regarding hospital autonomization is hard to construct in a scientific sense. Many confounding variables – the political context, learning effects, agency problems, and many others – can only be controlled (if at all) in a large sample of hospitals. But even if such a sample is feasible, it is impossible to randomize hospitals into intervention and control groups, which makes it impossible to isolate the effect of the autonomization policy. For example, the initial success of the conversion of hospitals in the United Kingdom into autonomous trusts in the early 1990s, can be explained by a self-selection problem – the more successful hospitals are more likely to make the decision to covert into trusts (Mays, 2000). This is a very common limitation in research regarding organizational reforms.

The fact that the research analyzed here is largely made up of case studies is not surprising. Given the complex processes that surround this policy and the methodological limitations described, case studies are necessary to understand such complexities in a deeper, rather than generalizable, fashion.

2.2.7 The U.S. Experience with Vertical Dis-integration

The evolution of managed care in the United States sheds some interesting insights to the analysis of the separation between providers and payers (Robinson, 1999). As shown in Section 2.1 above, one of the objectives of hospital autonomization is the achievement of greater efficiency and better quality of care. It is argued that the shift from a hierarchical relationship to one of autonomy lets managers manage, generating a proactive type of decision making. Besides, market exposure will force hospitals to compete on quality and efficiency. Thus, it is useful to quickly analyze how this rationale worked in the separation of providers from insurers that took place in the context of managed care in the United States. The rapid rise in health care costs during the last three decades of the last century gave health maintenance organizations (HMOs) an opportunity to increase their market share vis-à-vis their indemnity insurance rival. One reason for earlier HMOs to be cheaper than their indemnity counterparts was the fact that they were vertically integrated with their providers, which made them more successful in controlling medical costs as compared to their non-integrated counterparts. This competitive advantage was key for their growth during the early 1990s; the competitive forces unleashed during that period, and the reaction of indemnity insurance and provider

networks, made possible that the growth rate of country-level aggregate health care expenditures decelerated for the first time in three decades (Levit et al., 1997).

Given that health insurance and health care delivery are two different links of the vertical chain of production, there seemed to be no reason for HMOs and provider networks to be integrated. If HMOs were integrated with providers, the rigidity of a hierarchical relationship would prevent gains in efficiency and quality. Moreover, these gains were more likely to be achieved if providers were exposed to competition with other providers in their efforts to attract HMOs and sign contracts with them. In fact, after a strong growth period during the early 1990s, the consequences of vertical integration were quickly evident: lack of market exposure led providers to decrease productivity and engage in political battles for internal budget allocation, instead of improving performance to increase their revenue. Not surprisingly, after a self-limited period of success, vertically integrated HMOs were outperformed by open-panel competitors, and they ended up cutting their links with their provider networks (Robinson, 2001a).

Providers, on the other hand, evolved into more flexible and competitive organizations, ranging from integrated delivery networks to firms focused on very specific links of the vertical chain of production. This was particularly true for the most competitive markets such as those on the west coast of the country. Integrated delivery networks or less comprehensive integration between different types of providers are still common in the United States. For example, hospitals keep tight links to nursing homes, as bed turnover at the acute hospital setting can be improved by assuring availability of beds at subacute and long-term care facilities. As prices for these facilities are regulated, hospitals find it attractive to integrate with them to maximize turnover of acute beds and at the same time reap the profits of subacute and chronic beds because regulated prices do not take into account the implicit transfer price that is set between the hospital and the nursing home (Robinson, 1996). However, it is not evident that integrated delivery networks exhibit better performance, and the same weaknesses of vertical integration between HMOs and providers are found in these networks (Robinson, 2001b).

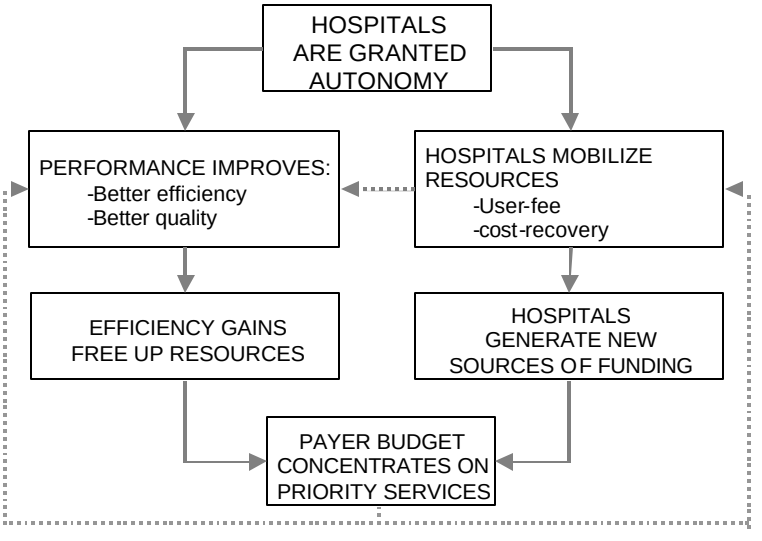
3. Conceptual Framework for M&E of Hospital Autonomization

This section will address the relationship between hospital autonomization and availability of PHS, starting with a summary of the analyzed evidence and its relevance for the availability of such services. Then, a summary of the existing M&E tools will be presented (a critique to these tools was presented in Section 1). Thirdly, a conceptual framework will be developed to serve as the basis for the indicators that will be proposed in Section 4.

3.1 Relationship between Hospital Autonomization and the Availability of PHS

As noted earlier, one rationale for hospital autonomization is to realize a more effective mix of health care services provided: a greater emphasis on priority health services and a reduced emphasis on inpatient/tertiary-care. This shift in service mix will be made possible by two expected outcomes of autonomization. First, autonomy will allow a hospital to improve its efficiency, freeing up resources. Second, hospitals will be able to mobilize additional resources through user fees. Budget allocations for hospitals therefore can be reduced, and reallocated priority health services. These relationships are illustrated in Figure 1.

Figure 2. Relationships between Hospital Autonomization and the Availability of Priority Health Services



Unfortunately, as demonstrated in Section 2.2, the empirical evidence does not analyze the effect of autonomization on the availability of PHS. Some effects, however, can be inferred from the reported research findings and on the basis of the expected effects of autonomization that were explained above. On the one hand, the failure of autonomous hospitals to achieve efficiency gains, or the lack of a clear cause-effect relationship between autonomy and such gains, leads to the conclusion that no windfall of freed-up resources will come after autonomization. Efficiency gains are precluded by a number of factors, like the failure to implement autonomy through the entire hospital structure, or the autonomized hospital operating in a non-competitive environment. Another key factor is chronic underfunding, which makes the upfront investments required to improve administrative processes unaffordable.

Regarding resource mobilization, it is clear from the evidence that no substantial additional resources followed autonomization. In many cases where resources did increase, the increases were not sustainable. Without this additional funding to free up from the hospital portion of the national health budget, resources may not be available for a shift from inpatient/tertiary-care to priority health services.

Indeed, a paradoxical policy effect might explain hospitals' failure to mobilize resources: if the central government encourages hospitals to collect user fees with the expectation of reducing its financial obligations with them (either in order to reallocate those to PHS, or to other sectors), there is no incentive for hospitals to collect those fees in the first place. As stated in Section 2.1, offsetting additional hospital user fee revenues with budget cuts is a disincentive for hospitals to implement user fee collection. Not surprisingly, no substantive effects on resource mobilization were observed, and hospital underfunding would end up worsened if budget cuts were larger than the insufficient user fee revenue. Underfunding, as said before, is a persistent barrier to improve hospital performance.

Thus, although in theory it is intuitive that granting autonomy to hospitals will improve resource allocations to PHS, in practice it is possible that no such thing happens and hospitals continue to demand a large share of central budgets to the detriment of spending on PHS. These counter-effects are illustrated in Figure 1 as dashed lines.

The other concern raised in Section 2.1 is related to negative effects on access to health care by the poor. As the empirical evidence clearly shows, without a compensating mechanism put in place by the payer to give hospitals incentives to prefer the poor, it is likely that hospitals will try to increase their revenue from non-poor patients at the expense of the poor.

In sum, hospital autonomization by itself will not lead to increased availability of PHS, unless payers are strongly committed to the policy (not only to grant hospitals autonomy but also to emphasize funding for PHS), engage in a consistent pattern of autonomization across all the components of hospital structure, and provide incentives for hospitals to give preference to the poor.

Continuous lines show the expected positive relationships that lead to improved availability of PHS. Dashed lines show the negative relationships that decrease such availability when hospital budgets are cut either because spending is shifted to PHS, or because of offsetting user fee revenues.

3.2 Available Tools for M&E of Hospital Autonomy

Although diverse authors have proposed and utilized M&E tools, many of them are either country- or context-specific. This section reviews two more generic M&E tools that have been proposed by two major research teams, namely Chawla et al. (1996), and Over and Watanabe (2003);

the latter is based on the conceptual framework developed by Harding and Preker (2003). First, each tool is described, and then the two tools are compared (Table 1).

3.2.1 Chawla et al. (1996) Toolkit

This toolkit proposes five key issues to consider when analyzing hospital autonomy:

Nature and extent of autonomy: This section analyzes the existing level of autonomy regarding three areas: administration, financing, and inputs. Administration includes the analysis of the board and the chief executive officer (CEO); financing includes the analysis of how revenues and budgeting operates; inputs includes personnel, drugs, equipment, and other supplies.

Process by which autonomy is granted: This section considers processes at three levels: government, legal framework, and hospital. Each level is analyzed in terms of how autonomy was implemented and what adjustments took place.

Hospital's internal changes to adapt to autonomy status: This section refers to the operational and administrative changes or new developments the hospital implemented in order to shift from an administrative-unit status to an autonomous status.

Impact of autonomy: This section analyzes changes in hospital outputs, performance, and relationships brought about by the transition into an autonomous entity. This section is the most extensive as it includes indicators of quality and efficiency, the two key areas of improvement expected from autonomization.

Implementation issues: This section documents and analyzes problems and issues detected while working through the preceding sections. It also summarizes the most important lessons that can be extracted from the implementation process.

3.2.2 Over and Watanabe Toolkit

This M&E toolkit considers three large dimensions: 1) what the intervention entails in terms of changes to the elements of hospital structure; 2) what responses are observed in the different areas of hospital operation; and 3) what impact the reforms cause on efficiency, quality and equity.

Dimensions of interventions:

In this dimension, the toolkit considers the five elements of hospital structure. Each element has a set of detailed indicators to give a precise idea of its components:

- *Residual claimant status*. The extent to which an individual holds claims over an asset, after all obligations have been paid, determines the degree of property. Given that public organizations traditionally do not appropriate surpluses to private interests (unless contracted in exchange of a service or input), managers of public hospitals have no incentive to increase hospital revenues or surpluses. Thus, granting residual claimant status to the hospital, so that it can retain surpluses and use them as it sees fit, provides an incentive to the manager to improve hospital performance.

- *Decision rights*. Unlike an administrative unit that is part of a hierarchy, an autonomous entity is entitled to make decisions regarding the use of assets and inputs, as well as strategic and marketing decisions. Hospital autonomization grants differing degrees of decision rights over those inputs and assets, but human resources management is usually kept at some higher level of the hierarchy. Fixed assets and changes in fixed capacity are also retained by higher decision-making bodies.

- *Degree of market exposure*. When shifting from an administrative unit to an autonomous entity, a hospital is exposed to competition and has to raise its revenues based on what it sells to the purchaser(s); comfortable guaranteed annual budgets are replaced by output-based revenues. This component is obviously limited by the existence of alternative providers, either public or private, which make the market for hospital services more or less competitive. Market exposure is also analyzed in the factor markets, i.e., labor and capital markets.

- *Availability of accountability mechanisms*. By granting autonomy, government oversight on hospital managers is reduced, and this increases the chances for managers to engage in behavior that serves their self-interest, to the detriment of the hospital. The absence of objective and measurable outcomes (profits and share value), makes it harder to rely on simple market accountability, so additional accountability mechanisms have to be put in place.

- *Extent of unfunded mandates*. The social obligation of providing health care services to the disadvantaged, and public health interventions, put additional pressures on public hospitals. If a hospital is obliged to provide unfunded services, performance will be affected and accountability is shifted from the manager to the decision maker who put that unfunded burden on the hospital. Thus, funding for these interventions has to be guaranteed through subsidies or other mechanisms that make transparent the relation between the costs to provide them and the revenues that they generate to the hospital.

Dimensions of hospital response

This dimension measures changes in hospital behavior in order to make operations possible under the new structure. It includes the areas of finance, marketing, human resources, procurement, strategy and medical management strategy.

Dimensions of impact

This dimension evaluates the outcomes of autonomy status, in terms of hospital performance. Four areas are analyzed: technical efficiency, allocative efficiency, quality, and equity. Each includes comprehensive indicators, as follows:

- *Technical efficiency*: includes indicators of physical and monetary inputs, capacity utilization, labor productivity, unit cost per output, financial operating balance per output, service mix, and health outcome.

- *Allocative efficiency*: Input mix and input price ratio, internal rationing mechanisms, demand-side rationing mechanisms, rewards to producers, and service mix.

- *Quality*: Input, process, and outcome indicators. Outcome indicators include technical outcomes and patient satisfaction, as well as indicators of corruption.

- *Equity*: Rationing mechanisms, exemptions, access barriers, services provided by socioeconomic status, and outcomes by socioeconomic status in terms of health outcomes and financial burden to households.

3.2.3 Comparing Chawla and Over and Watanabe

The paper has already discussed certain limitations of the Chawla and Over and Watanabe M&E tools. Another is that the list of indicators that can be built from the two tools, while extensive, does not ensure their adequate use to measure and evaluate the effect of hospital autonomization on the availability of priority health services. Rather, many of those indicators are complex or cannot be built simply because the information does not exist. Section 4 proposes an M&E tool that builds on these two existing tools, filling certain gaps and adding new indicators to track the effects on priority health services, to enhance the delivery of PHS at the hospital and system level.

Table 2. Comparing Over & Watanabe and Chawla et al. Toolkits on M&E of Hospital Autonomy

Dimensions in Over and Watanabe	Parallel in Chawla et al.	In Chala et al. but not in Over and Watanabe
1. Interventions on hospital structure		
Residual claimant status	Limited to fee retention	
Decision rights	Administration, financial, budgeting, and inputs	Board and CEO existence and appointment.
Degree of market exposure	Limited to revenue structure	
Availability of accountability mechanisms	Community involvement, reporting to government, accounting audits	
Extent of unfunded mandates	Not found	
2. Dimensions of hospital response		
Finance	Less comprehensive	
Marketing	Not found	Scope of operations (service mix)
Human resources	Similar but less comprehensive	
Procurement	Nature and extent of autonomy regarding drugs, inputs and equipment	
Business strategy	Less comprehensive	
Medical management strategy	Less comprehensive, included in management structure	
		Information systems
3. Dimensions of impact		
Technical efficiency	Less comprehensive, more focused on cost per output	
Allocative efficiency	Not found	
Quality	Similar but less comprehensive	
Equity	Similar but less comprehensive	
		Process by which autonomy is extended Factors contributing to the success of hospital autonomy

3.3 Conceptual Framework for New Indicators

The framework proposed here provides the bases for the analysis of hospital autonomy from two complementary perspectives: from within the hospital and from the system perspective. The first analyzes the nature and extent of autonomization along the lines of the five elements of hospital structure proposed by Harding and Preker (2003), and their effect on efficiency gains and availability of priority health services. The second perspective analyzes autonomization regarding resource mobilization and links it to availability of priority health services. Both perspectives are analyzed in four different components: inputs, processes, outputs, and outcomes. (In terms of Figure 1, the hospital perspective deals with the left-hand branch and the system perspective deals with the right-hand branch.)

3.3.1 Inputs

In this section of the indicators, the five elements of the Harding and Preker toolkit are slightly modified to allow for a deeper analysis of the role of boards of directors, the interactions between hospital manager and board of directors, the accountability devices to control the manager's decision-making, budgeting, financing, marketing, medical management, human resources, and procurement. Regarding the environment, the indicators also take into account the market structure, the payment mechanisms, and the governance arrangements. Other environmental factors such as macroeconomics, epidemics, demographics and politics are taken into account as control variables. Regarding the health system, the indicators capture the flows and proportion of resources for hospital services and PHS.

A significant challenge at this stage is to furnish a clear-cut definition of PHS. Although this concept has been grossly defined in the context of this paper as those services that address child, maternal, and reproductive health; HIV/AIDS; and other infectious diseases, this definition is far from sufficient. For example, should state-of-the-art neonatal intensive care be included in child health? Is in-vitro fertilization a priority in reproductive health, or tertiary-care treatment for AIDS-related complications in end-stage AIDS patients?

One short answer to this challenge is to focus on those interventions that yield the most benefit per dollar spent, which is a relative concept that varies from country to country. However, for a country to have this information available, it has to undertake a burden-of disease study, and complete it with an assessment of costs and impacts of a wide range of interventions to deal with that burden of disease. This information is rarely available in many developing countries, which makes the exercise of classifying interventions as PHS mostly a series of value judgments.

The goal of the inputs indicators is to give a detailed idea of the nature and extent of hospital autonomy. The thoroughness of the hospital indicators intends to allow for a comparative analysis between hospitals within a country or between countries, so as to have a perception of how autonomous a hospital is as compared to others, or how autonomous hospitals within a country are, as compared to other country.

These indicators include some qualitative assessments based on four economic theories grouped as New Institutional Economics. From the perspective of principal-agent theory, the indicators analyze the dynamics of the relationships between managers, hospitals, boards of directors, and constituents of board representatives. From the perspective of transaction cost economics, they assess the relationships between hospitals and health authorities, specifically the presence of investments that are useful only for that purchaser, and the presence of incomplete contracts. From the perspective

of property rights theory, the indicators add more specific decision rights to the Harding and Preker indicators. And from the perspective of public choice, the indicators assess the political dynamics of interest groups.

These neoinstitutional approaches aim at providing a framework of analysis for some not very obvious explanations of failure or success of the autonomization policy. Although the analyst can intuit some of these factors as explanatory variables for success or failure, the exhaustive list intends to make sure that no variable is missed. The fact that most of the indicators are qualitative and not quantitative, underlines the importance of having both approaches. A purely quantitative approach would miss many of the key factors that characterize autonomy or explain success or failure. Conversely, a purely qualitative approach would also miss key variables. Thus, complementarities between both approaches are not only beneficial but also necessary.

3.3.2 Processes and Outputs

In this section, the indicators focus on the effects of autonomization on hospital input and output mix. The basic question at this stage is: have hospitals achieved efficiency gains that free up resources for PHS?

3.3.3 Outcomes

This section assesses the changes in hospital performance, and availability of priority health services. Efficiency is measured in terms of productivity, quality is measured in terms of structure indicators and clinical outcome indicators, and equity is measured in terms of access by the poor to hospital services.

If the rationale of granting hospitals autonomy to reallocate funds to priority health services is actually achieved, the hospital is expected to increase resource mobilization from sources other than transfers from the central budget. The basic indicator regarding resource mobilization and availability of PHS is the proportion of hospital budgets that has been shifted to PHS. Although this shift does not occur directly, it can be inferred if hospital budgets are reduced and budgets for priority services are concomitantly increased.

However, it can be the case that efficiency gains at the hospital level or simple budget cuts may be transferred to other areas of public spending, like debt service or military spending. In this case, the lack of increase in resources for PHS does not suggest a failure of the hospital autonomization policy but a political decision to divert resources to other sectors. To account for this, changes in budgets for other sectors have to be included in the comparison.

4. Indicators of Hospital Autonomization

Box 1 summarizes the classification of the indicators proposed in Section 3. More detailed lists are in annexes to this report: The indicators of inputs are in Annex A. Indicators of processes, outputs, and outcomes are in Annex B. They keep the same order and classification of Section 3.

Box 1. Classification of New Indicators

I. Inputs
- a. Intervention: nature and extent of hospital autonomy
  - 1.Decision rights
  - 2. Market exposure
  - 3. Residual claimant status
  - 4. Accountability mechanisms
  - 5. Extent of unfunded mandates
- b. Health system
  - 1. Priority health services
  - 2. Overall budget line items
  - 3. Budget for priority health services as a % of total health expenditures
- c. Environment
  - 1. Market structure
  - 2. Governance arrangements
  - 3. Payment mechanisms
  - 4. Other environmental issues

II. Processes and outputs: Hospital changes in
- 1. Hospital inputs
- 2. Hospital outputs

III. Outcomes
- 1. Hospital efficiency: Productivity
- 2. Quality
- 3. Equity
- 4. Resource mobilization
- 5. Priority Health Services

It is a well-known problem that developing countries suffer a chronic lack of good-quality data to adequately monitor most issues of public policy. Thus, it is important to be aware of the data sources available to undertake this and forthcoming M&E processes. Although some data are routinely available with diverse degrees of validity and reliability, other data like surveys or epidemiological data for burden-of-disease estimations are not collected routinely.

Most of the data required for the application of the proposed M&E tool are routine data, specifically accounting, cost, hospital output and epidemiological data. It is possible that public hospitals do not have adequate cost accounting data to estimate unit costs or even standard accounting books to build balance sheets or income statements. In that case, indicators using balance sheet accounts cannot be calculated, but indicators using income statement accounts can be proxied by operating revenues and operating expenses. Regarding data on budget allocations, some degree of disaggregation is necessary to single out allocations for PHS. In case it is not possible, proxy data like budget executions for vaccination, antenatal care, and HIV/AIDS basic treatment, can be used. Basic

National Health Accounts figures are required to estimate overall public health care expenditures and public hospital expenditures.

The estimation of concentration indexes for hospital, upstream and downstream markets requires data on other producers at each market. This could become a difficult process as the definition of product and geographic markets is not straightforward and require substantial data. Thus, a simple ratio of number of providers per 1,000 people for urban centers, with larger geographic markets for higher complexity products, would partially serve the purpose of giving an idea of market concentration.

It is also important to emphasize that all of the data required are basic data that every hospital and health system should have at hand to keep track of its performance; they are not exclusively required for M&E of hospital autonomization. Thus, if any data is lacking, a system-wide commitment to improving information must underlie M&E of hospital autonomization as well as any other measurement and evaluation undertaking

Annex A. Inputs

A. Nature and Extent of Hospital Autonomy

Nature and Extent of Hospital Autonomy	Indicator	Source
1. DECISION RIGHTS		
1.1. Strategic management		▲ Interview with hospital manager or other senior officer
1.1.1. Setting mission statement and vision	▲ The hospital has a written mission statement ▲ The hospital has a written vision statement ▲ Percentage of hospital employees who know the mission-vision statement	
1.1.2. Setting its own strategic plan		
1.1.2.1. Not allowed to set any plan		
1.1.2.2. Limited by higher-level authority guidelines	▲ The hospital sets a long-term strategic plan in writing ▲ Short-term decisions are made according to long-term strategic planning (always, most of the times, half of the times, rarely, never)	
1.1.2.3. Completely autonomous	▲ The hospital sets a long-term strategic plan in writing ▲ Short-term decisions are made according to long-term strategic planning (always, most of the times, half of the times, rarely, never)	
1.2. Finance		▲ Interview with hospital manager or other senior officer
1.2.1. Budgeting		
1.2.1.1. Is the hospital allowed to set its own recurrent budget without prior approval from higher authority?	▲ If yes, is there a written budget for recurrent expenses and revenues? ▲ If no, what is the process for approval?	
1.2.1.2. Is the hospital allowed to set its own capital budget without prior approval from higher authority?	▲ If yes, is there a written budget for capital investments and selling-offs? ▲ If no, what is the process for approval?	
1.2.1.3. Is the hospital given a recurrent and capital budget by higher authority?	▲ Type of budget: rigid line-item, flexible line-item, global budget	
1.2.2. Expenditures: Are there items of hospital spending that are explicitly earmarked by higher authorities?	▲ Overall percentage of hospital expenditures that are explicitly earmarked by higher authorities ▲ By category, percentage of hospital earmarked expenditures o Human resources o Capital o Drugs and other medical inputs o Other inputs	
1.2.3. User fee revenue: is the hospital allowed to retain the user fee revenue and use it as it sees fit?	▲ Percentage of user fee revenue retained at hospital ▲ Percentage of user fee revenue left to hospital's discretionary use	
1.2.4. Debt structure	▲ Debt-to-equity ratio ▲ How has this ratio changed as a result of autonomy?	
1.2.5. Capital raising: Is the hospital allowed to raise capital from private or not-for-profit sources?	▲ Types of capital the hospital is allowed to raise: bonds, loans, donations, equity, in-kind (equipment, personnel, other inputs) ▲ Regulations regarding these operations (ceilings, terms and conditions, guarantees, etc)	

Nature and Extent of Hospital Autonomy	Indicator	Source
	▲ Debt ratios (debt/capital, long-term debt/total debt, hospital bonds/total debt, hospital loans/total debt ▲ Equity ratios (hospital-issued equity/total equity, private endowments/total equity, donations/total equity) ▲ Types of investments the hospital is allowed to get into with public or private partners o Joint ventures o Partnerships	
1.3. Marketing		▲ Interview with hospital manager or other senior officer
1.3.1. Sales		
1.3.1.1. Is the hospital allowed to contract under different payment mechanisms with alternative payers?	▲ Payment mechanisms with major purchasers: fee-for-service, DRG, per-diem, capitation, bed-leasing. ▲ Share of revenues corresponding to each contracting modality	
1.3.2. Fees/rates: Is the hospital allowed to set the fees (or prospective payment rates) for services sold to other sources of revenue?	▲ The hospital has complete autonomy to set fees ▲ Other criteria to set fees (ceilings/floors, cost-plus, customary rates, etc.) defined by higher authority	
1.3.3. Service mix: Is the hospital allowed to completely set up its own service mix?	▲ If no, what services are subject to approval by higher authority, and what services is the hospital obliged to provide?	
1.3.4. Promotion		
1.3.4.1. Is the hospital allowed to design its own marketing strategy to attract and retain institutional clients (insurers, employers, etc)?	▲ If yes, is there a written marketing plan? ▲ Is this plan based on sound market research? ▲ What strategies are considered in the plan to attract and retain institutional clients? ▲ Is the plan followed?	
1.3.4.2. Is the hospital allowed to design its own marketing strategy to attract and retain individual customers?	▲ If yes, is there a written marketing plan? ▲ Is this plan based on sound market research? ▲ What strategies are considered in the plan to attract and retain individual customers? ▲ Is the plan followed?	
1.4. Medical management strategy		▲ Interview with hospital manager or other senior officer
1.4.1. Network design: Is the hospital restricted by health authorities to preserve complementarities with other public providers in the area?	▲ If yes, what services are included in this restriction?	
1.4.2. Referral/counter-referral mechanisms:		
1.4.2.1. Is the hospital restricted by health authorities to follow referral protocols with receiving institutions that have been defined by higher authority?	▲ If yes, what services are included in this restriction? ▲ In what cases is the hospital allowed to select receiving (higher-level) institutions?	
1.4.2.2. Is the hospital restricted by health authorities to follow referral protocols with sending institutions that have been defined by higher authority?	▲ If yes, what services are included in this restriction? ▲ In what cases is the hospital allowed to select sending (lower-level) institutions?	
1.4.3. Strategies for managing care: Is the hospital allowed to design and implement its	▲ If yes, what tools are actually implemented (case management, disease management, utilization review, etc.)?	

Nature and Extent of Hospital Autonomy	Indicator	Source
own managed-care tools to control costs and improve quality?	▲ How are these tools used to coordinate care with other health care providers?	
1.5. Human resources		▲ Interview with hospital manager or other senior officer (unless otherwise indicated)
1.5.1. Planning: is the hospital allowed to:		
1.5.1.1. Create/abolish positions?	▲ Number and percentage of positions created by hospital after autonomy ▲ Number and percentage of positions abolished by hospital after autonomy ▲ Ratio of administrative vs. clinical positions before and after autonomy	▲ Human resources files ▲
1.5.1.2. Create or modify job descriptions?	▲ Number and percentage of job descriptions that have been created or modified after autonomy	▲ Human resources files
1.5.1.3. Set salaries and incentives?	▲ Number and percentage of positions that have changed compensation schemes after autonomy ▲ Proportion of labor costs that is subject to choice of salary range by hospital ▲ Proportion of labor costs that is related to output, productivity or performance	▲ Human resources files
1.5.1.4. Change functions to employees?	▲ Percentage of permanent FTE (i.e., protected by long-term job-security regulations) that have been changed function schemes after autonomy	
1.5.1.5. Hire and fire according to needs?	▲ Percentage of hospital employees (FTE) that are subject to civil service long-term job-security regulations ▲ By category, percentage of employees that are subject to flexible hiring (i.e., that can be matched to demand fluctuations) by hospital management o Physicians o Nurses o Other clinical o Administrative	▲ Human resources files
1.5.2. Employee selection: Is the hospital allowed to define criteria for employee selection?	▲ Proportion of employees who have been hired according to hospital-defined selection criteria after autonomy ▲ Are selection criteria publicly available at time of contest? ▲ Are selection scores/rankings publicly available? ▲ If criteria are defined by higher authority, is the hospital allowed to select the applicants?	▲ Human resources files
1.5.3. Employee retention: Is the hospital allowed to design its own scheme for training and upgrading of capacity and skill enhancement?	▲ Turnover rate, by category o Physicians o Nurses o Other clinical o Administrative	▲ Human resources files
1.5.4. Employee satisfaction		
1.5.4.1. Incentives: Is the hospital allowed to set incentives beyond salaries to improve employee performance?	▲ Proportion of total compensation, by category, that is paid in monetary incentives ▲ Proportion of total compensation, by category, that is paid in non-monetary incentives	▲ Cost accounting information
1.5.4.2. Working environment: Is the hospital allowed to design its own strategies to improve working environment?	▲ Does the hospital have a strategic human-resources plan? ▲ Overall perception of organizational climate: is it improving or worsening?	

Nature and Extent of Hospital Autonomy	Indicator	Source
1.5.5. Industrial relations, other		
1.5.5.1. Is the hospital subject to external union bargaining?	▲ Areas in which hospital workers are covered by external union bargaining o Salaries o Incentives o Job security o Other ▲ Proportion of FTE covered by these restrictions	
1.5.5.2. Is the hospital subject to internal union barganing?	▲ Areas in which hospital workers are covered by internal union bargaining o Salaries o Incentives o Job security o Other ▲ Proportion of FTE covered by these restrictions	
1.5.5.3. Personnel evaluation systems: Is the hospital allowed to design and apply its own schemes?	▲ Proportion of FTE that have been subjected to sanctions/rewards according to these schemes per year	
1.6. Procurement		
1.6.1. Drugs: Is the hospital allowed to:		▲ Administrative data on procurement
1.6.1.1. Define its own needs?	▲ Proportion of annual drug consumption that is defined by hospital	
1.6.1.2. Choose suppliers?	▲ Proportion of annual drug consumption that is bought to hospital-selected suppliers (including those selected through collective purchasing arrangements)	
1.6.1.3. Negotiate terms of purchase (prices, delivery, return policies, payment schemes)?	▲ Proportion of annual drug consumption whose purchasing terms are defined by hospital	
1.6.1.4. Engage in strategic-purchasing alliances: Can the hospital voluntarily create or join purchasing alliances with other public or private purchasers of drugs?	▲ Proportion of annual drug consumption that is purchased through these alliances ▲ Proportion of annual drug consumption that is provided by higher-level authorities	
1.6.2. Other medical supplies (same items as drug procurement)		
1.6.3. Other supplies (same items as drug procurement)		
1.6.4. Other services (same items as drug procurement)		
1.6.4.1. Outsourcing for clinical services (lab, x-rays, other diagnostic tests, therapies, etc.)		
1.6.4.2. Outsourcing for non-clinical services (laundry, security, food, sterilization, maintenance, etc.)		
1.6.4.3. Outsourcing for administrative services (billing, marketing, information systems, etc.)		
1.6.5. Equipment purchases (same items as drug procurement)		
2. MARKET EXPOSURE		▲ Interview with hospital manager or other senior officer

Nature and Extent of Hospital Autonomy		Indicator	Source
2.1.	Hospital performance: Is the hospital ranked against other public or private competitors?	▲ Performance features that are evaluated (quality, efficiency, equity) ▲ Latest ranking and changes in recent rankings	
2.2.	Hospital pricing: if the hospital enjoys at least some autonomy to set prices, are pricing policies related to competitors in the product and geographic market?		
3.	RESIDUAL CLAIMANT STATUS		
3.1.	Hard budget constraint: Is the hospital really exposed to the risks of losses or the benefits of surpluses?	▲ Retained surpluses from last fiscal period, as a proportion of total revenues ▲ Losses from last fiscal period, as a proportion of total revenues ▲ Proportion of these losses that was not bailed out by health authority ▲ Allocation of surpluses from last fiscal period (by percentage): o Manager bonuses and non-financial incentives o Employee incentives (financial, non-financial) o Improvements in hospital infrastructure (buildings, equipment, information technology) o Hiring of new employees o Improvements in hospital supply of inputs o Adding new services to service mix o Reductions in hospital fees for the poor o Hospital-based subsidized insurance schemes for the poor	▲ Budget execution data
3.2.	Capital raising: is the hospital allowed to raise capital from alternative sources (see decision rights --> finance)	▲ Regulations regarding risk of capital raising alternatives	▲ Interview with hospital manager or other senior officer
3.3.	Is the link between the public purse and the hospital made evident?	▲ Mechanisms to guarantee community involvement, other than representation in the Board of Directors (when there is such a board)	▲ Interview with hospital manager or other senior officer
4.	ACCOUNTABILITY MECHANISMS		▲ Interview with hospital manager or other senior officer
4.1.	Overall market accountability: Considering market exposure, is the hospital forced to improve performance lest it loses market share to outperforming competitors?	▲ Provide a qualitative assessment of market accountability	
4.2.	Other accountability mechanisms to guarantee that agents are pursuing agendas to the benefit of the community	▲ Provide a qualitative assessment of available mechanisms	
4.2.1.	Finance:		
4.2.1.1.	Are there rules for disclosure of procedures for decision making regarding financing of hospital operations and investments?	▲ Describe rules according to items in heading 1.2. ▲ Describe cases where rules have not been abided by	
4.2.1.2.	Are there rules for disclosure of financial statements?	▲ Describe rules ▲ Describe cases where rules have not been abided by	

Nature and Extent of Hospital Autonomy		Indicator	Source
4.2.2.	Marketing: Are there rules for disclosure of contracting with downstream purchasers of health care services?	▲ Describe rules ▲ Describe cases where rules have not been abided by	
4.2.3.	Medical management strategy: Are there rules for discolsure of conflicts of interest regarding payment mechanisms?	▲ Rules concerning contracts between hospital and downstream purchasers ▲ Rules concerning contracts between hospital and employees ▲ Rules concerning contracts between hospital and complementary providers ▲ Describe cases where rules have not been abided by	
4.2.4.	Human resources: Are there rules for disclosure of contracting with human resources?	▲ Describe rules ▲ Describe cases where rules have not been abided by	
4.2.5.	Procurement: Are there rules for disclosure of procurement decisions?	▲ Describe rules ▲ Describe cases where rules have not been abided by	
4.3.	Coexistence of hierarchical accountability mechanisms with health authority	▲ Provide a qualitative assessment of mechanisms by which health authorities exert influence on hospital managers and boards beyond contractual terms, either formally or informally to protect community welfare (behaving in self-interest and conflicting agendas of health authorities is dealt with in 2.1.3)	
5.	EXTENT OF UNFUNDED MANDATES		
5.1.	Providing services to the poor		
5.1.1.	Are there explicit procedures to quantify services provided to the unable-to-pay patients and their corresponding costs?	▲ Proportion of hospital output provided to o Uninsured patients who pay zero or reduced fees o Patients referred from public institutions that are financially responsible for them but do not pay (cost-shifting between hospitals or jurisdictions) ▲ Non-reimbursed costs (corresponding to these services) as a proportion of total costs ▲ Proportion of foregone revenues corresponding to these services	▲ Billing data, budget execution.
5.1.2.	Are there explicit mechanisms to compensate hospital for these costs?	▲ Describe mechanisms ▲ Proportion of costs of these services that is reimbursed	▲ Interview with manager or other senior officer ▲ Budget execution
5.1.3.	Are there subsidized or community-based insurance schemes to protect the poor from financially catastrophic expenses?	▲ What proportion of the unable-to-pay are covered by these schemes? ▲ Reasons for uninsured- unable-to-pay for not enrolling to these schemes	▲ Household survey data ▲ Household survey data
5.2.	Teaching (if the hospital holds that status)	▲	
5.2.1.	Has the hospital estimated the costs of teaching?	▲ If yes: direct and indirect costs as a proportion of total costs ▲ If no, what costs have been estimated (usually direct costs as operating times, extended stays, additional lab tests, etc.)	▲ Cost accounting information
5.2.2.	Is the hospital compensated for teaching activities?	▲ Is compensation for teaching enough to cover teaching costs?	▲ Interview with manager or other senior officer
5.3.	Research (if the hospital carries out research)		
5.3.1.	Are research activities carefully singled out from clinical activities?	▲ If yes: how are they singled out by category o Labor o Drugs and other supplies o Ancillary tests o Operating room times and days of stay o Other	▲ Interview with manager or other senior officer

Nature and Extent of Hospital Autonomy		Indicator	Source
5.3.2.	Are research projects funded by separate funds, either from health authority or from other sources?	▲ Are such funds enough to compensate for research costs? ▲ Total and externally funded research budget as a proportion of total hospital revenues	▲ Interview with manager or other senior officer ▲ Budget execution
5.4.	Public health		
5.4.1.	Does the hospital provide public health interventions?	▲ Type of interventions o Environmental o Animal control o Vector control o Food safety o Individual interventions with high externalities (vaccination, STDs, communicable diseases) o Collective campaigns (health promotion and disease prevention) o Natural disasters or other massive emergencies	▲ Interview with manager or other senior officer
5.4.2.	Has the hospital estimated the costs of those interventions?	▲ If yes: direct and indirect costs as a proportion of total costs ▲ If no, what costs have been estimated?	▲ Cost accounting information
5.4.3.	Are those interventions explicitly funded?	▲ Proportion of total costs of these interventions that is not covered by funding or reimbursement	▲ Cost accounting information
5.5.	Chronic underfunding: Have investments in administrative processes been postponed because funds are not available	▲ Estimated cost of those investments ▲ Cost of investments as a share of total hospital revenues	▲ Cost accounting information

B. Health System

Health System	Indicator	Source
1. Priority services	▲ List priority health services by items: o Maternal health o Child health o Reproductive health o HIV/AIDS o Infectious diseases	▲ Ministry of Health
2. Overall budget line items	▲ Classify country-level health care budget in terms of: o Priority health services o Non-priority health services	▲ National Health Accounts or MoH budget execution
3. Budget for priority health services as a proportion of total budget	▲ Annual budget for priority health services ▲ Total annual health care budget	▲ National Health Accounts or MoH budget execution

C. Environment

Environment		Indicator	Source
1. MARKET STRUCTURE			
1.1.	Hospital product market:		
1.1.1.	Is demand for hospital services concentrated?	▲ Concentration index (or Hirschmann-Herfindahl Index) for hospital purchasers	▲ Aggregate data from MoH
1.1.2.	Is supply of hospital services concentrated?	▲ Hirschmann-Herfindahl Index for hospital's geographic market ▲ Market share of hospital in its geographic market	▲ Patient-origin data (medical records)
1.2.	Input market: Human resources		

Environment	Indicator	Source
1.2.1. Is demand concentrated?	▲ Concentration index (or Hirschmann-Herfindahl Index) by category	▲ Professional organizations, labor unions
1.2.2. Is supply concentrated?	▲ Hirschmann-Herfindahl Index by category	▲ Professional organizations, labor unions
1.3. Input market: Drugs and other inputs		
1.3.1. Is demand concentrated?	▲ Concentration index (or Hirschmann-Herfindahl Index) by type of input	▲ Industry-level data
1.3.2. Is supply concentrated?	▲ Hirschmann-Herfindahl Index by type of input	▲ Industry-level data
1.4. Capital market		
1.4.1. Is demand concentrated?	▲ Concentration index (or Hirschmann-Herfindahl Index) by type of input	▲ Industry-level data
1.4.2. Is supply concentrated?	▲ Hirschmann-Herfindahl Index by type of input	▲ Industry-level data
2. GOVERNANCE ARRANGEMENTS		
2.1. Is there a Board of Directors?	▲ How many members are on the Board of Directors? ▲ What are the predominant lines of influence of each of the members of the board: political, informational, or technical?	
2.1.1. Structure of the Board		
▲ Are there representatives of the community?	▲ How many? ▲ Are they elected or appointed? (by whom?) ▲ What are their objective functions and agendas? ▲ Are there conflicts between their agendas and those of other representatives? ▲ Are there conflicts between their agendas and that of the hospital manager? ▲ How is accountability to their constituents guaranteed? ▲ What political, informational, and technical lines of influence do each of these representatives enjoy?	
▲ Are there representatives of the government (local, regional, or national authorities)?	▲ How many? ▲ Are they elected or appointed? (by whom?) ▲ What are their objective functions and agendas? ▲ Are there conflicts between their agendas and those of other representatives? ▲ Are there conflicts between their agendas and that of the hospital manager? ▲ How is accountability to their constituents guaranteed? ▲ What are the political, informational and technical lines of influence each of these representatives enjoy?	▲ Interview with representative (if there is representation)
▲ Are there representatives of health authorities (local, regional, or national authorities)?	▲ How many? ▲ Are they elected or appointed? (by whom?) ▲ What are their objective functions and agendas? ▲ Are there conflicts between their agendas and those of other representatives? ▲ Are there conflicts between their agendas and that of the hospital manager? ▲ How is accountability to their constituents guaranteed? ▲ What are the political, informational and technical lines of influence each of these representatives enjoy?	▲ Interview with representative (if there is representation)
▲ Are there other stakeholders that are not represented in the Board of Directors?	▲ List excluded groups ▲ Are there conflicts between their agendas and those of the Board of Directors? ▲ Are there conflicts between their agendas and that of the hospital manager?	▲ Interview with manager or other senior officer
2.2. Manager or CEO		▲ Interview with manager or other senior officer
▲ What is the manager's objective function?	▲ Provide a qualitative assessment	

Environment		Indicator	Source
	▲ Are there information advantages favoring the manager?	▲ Provide a qualitative assessment	
	▲ Is the hospital manager allowed to vote at board meetings?		
	▲ Are there mechanisms in place to hold the manager accountable to the Board of Directors or higher authorities for his/her decisions?	▲ Describe mechanisms in place	
	▲ Is the manager elected (or appointed)?	▲ Who elects (or appoints) the manager?	
	▲ Is the manager exposed to multiple agents/multiple tasks?	▲ Describe the dynamics of multiple agents and multiple tasks, and to what extent this situation attenuates incentives for good performance	
	▲ Is the manager captured by special-interest groups (irrespective of their representation in the Board of Directors)	▲ Provide a qualitative assessment of the dynamics of this capture	
	▲ Are there information asymmetries vis à vis the regulator or the Board of Directors that favor the manager?	▲ Are these information asymmetries used by the manager to negotiate soft targets with authorities or Board of Directors?	
3.	PAYMENT MECHANISMS		▲ Interview with manager or other senior officer
3.1.	Line-item budget	▲ Rigid ▲ Flexible (which items?) ▲ Does the budget reward good performers and punish poor performers?	
3.2.	Global budget	▲ Restrictions that apply for the execution of the budget ▲ Does the budget reward good performers and punish poor performers?	
3.3.	Service contract	▲ Payment mechanism and share of revenues corresponding to each o Cost plus o Fee-for-service o Per-diem o DRG o Bed leasing o Capitation ▲ Does the payment mechanism reward good performers and punish poor performers?	▲ Budget execution
3.4.	Has the hospital been bailed out after autonomy?	▲ Proportion of total revenues corresponding to bailouts	▲ Interview with manager or other senior officer
3.5.	Are there relationship-specific investments (RSI) between hospital and downstream purchasers or upstream providers that turn competitive relationships into bilateral monopolies?	▲ If yes, what relationships with purchasers are influenced by RSI? ▲ Proportion of annual hospital revenues corresponding to those purchasers	▲ Interview with manager or other senior officer
3.6.	Are contracts between hospital and downstream purchasers or upstream providers incomplete, so as to require specialized governance structures?	▲ If yes, what relationships with purchasers have been complemented with specialized governance structures? ▲ Proportion of annual hospital revenues corresponding to those purchasers	▲ Interview with manager or other senior officer

Environment		Indicator	Source
4.	ENVIRONMENTAL FACTORS: OTHERS		
4.1.	Changes in demographic profiles		▲ Demographic and epidemiologic data
4.1.1.	Internal displacement	▲ Percentage growth (decline) of population in catchment area, globally and by age/sex groups	
4.1.2.	Migrations	▲ Percentage growth (decline) of population in catchment area, globally and by age/sex groups	
4.2.	Changes in epidemiologic profiles	▲ Changes in incidence and prevalence of major ICD-10 codes ▲ Occurrence of natural disasters, epidemics, catastrophes, or terrorist attacks	
4.3.	Macroeconomic issues		
4.3.1.	Unemployment	▲ Unemployment rate and its evolution before and after autonomization ▲ Impact of unemployment rate on use of hospital services by non-paying patients	▲ Macroeconomic data ▲ Household surveys
4.3.2.	GDP growth	▲ Growth rate and its evolution before and after autonomization	▲ Macroeconomic data
4.3.3.	Exchange rate	▲ Exchange rate and its evolution before and after autonomization	▲ Macroeconomic data
4.3.4.	Political process	▲ Influence of electoral calendar on hospital operations o Pressure from local political leaders on hospital manager or board regarding hiring of employees and provision of services to constituents o Variations in budget allocations, bailouts and capital investments that are related to electoral calendar ▲ Influences in these fields unrelated to electoral calendar ▲ Influence of armed conflict on hospital performance o Physical damage to facilities, equipment and employees o Uncompensated care for victims of conflict	▲ Interview with manager or other senior officer

Annex B. Processes and Outputs, Outcomes

		Source
II. Hospital Processes and Outputs – Changes in:		
1. Hospital inputs		Budget execution
▲ Monetary input		
o Total revenue	Annual value	
o Total expenditure	Annual value	
o Expeditures on staff and drugs	Annual value	
o Physical inputs		
o Medical staff (number of qualified medical staff, percentage of absenteeism of medical staff)	Annual value	
2. Hospital outputs (exclude outputs related to priority health services and explicitly considered in Annex A, item B.1.)		Hospital data on outputs
▲ Discharges	Annual value	
▲ Outpatient visits	Annual value	
▲ Lab tests	Annual value	
▲ X-rays and images	Annual value	
▲ Surgical procedures	Annual value	
▲ Other outputs	Annual value	
III. Outcomes		
1. Hospital Efficiency: Productivity		Hospital input-output data
▲ Bed utilization (ALOS, occupancy rate, turnover rate)	Annual value	
▲ Capacity utilization of (other) medical equipment o Laboratory o X-rays and other imaging equipment o Other equipment	Annual value	
▲ Labor productivity		
o Outpatient visits per physician per day	Annual value	
o Inpatient cases per physician per day	Annual value	
o Lab tests per lab FTE	Annual value	
o Imaging tests per imaging FTE	Annual value	
o Bed-day-equivalent per FTE (total and clinical)	Annual value	
2. Quality Indicators		Hospital clinical and input data
▲ Number of qualified medical staff	Annual value	
▲ Percentage of referrals and counter-referrals according to defined protocol	Annual value	
▲ Health outcomes		
o Mortality rates adjusted by severity	Annual value	
▲ Rate of adverse outcome for selected severity-adjusted conditions		
o Rate of hospital-caused infection (iatrogenic disease)	Annual value	
o Rate of post-operative infection rates	Annual value	

o Rate of emergency readmission within two weeks of discharge	Annual value	
o Rate of returning to operating theater for the same condition	Annual value	
▲ Patient satisfaction (health survey questionnaire, quality-of-life measures, etc.)	Annual value	Purpose-specific survey
▲ Waiting times for elective surgery, visits to general physician and specialist physician, ancillary tests, therapies, other	Annual value	
▲ Overall rating of hospital services	Quantitative/qualitative evaluation and changes after autonomy	Purpose-specific survey
3. Equity		
▲ Access to services (by category) by the poorest two income quintiles	Annual value	Household surveys
▲ Proportion of user fee revenues paid for by poorest two income quintiles	Annual value	Household surveys
4. Resource Mobilization		
▲ Is the hospital allowed to sell services to payers other than health authority?	If yes, proportion of total annual revenues that are represented by these additional sources Revenue shares of each of these additional sources: o User fees o Cost recovery fees o Sales to private payers (insurers, employers, etc) o Co-payments form users of private payers o Sales to other health care providers Other sources (teaching, research, management consulting, hospital residues, etc.)	Budget execution
5. Priority Health Services		
Relationships between: ▲ Changes in spending on priority health services ▲ Changes in spending on non-priority health services ▲ Changes in spending on other public sector areas	Annual percentage change Annual percentage change Annual percentage change	National Health Accounts or budget execution
▲ Changes in use of priority health services by income quintiles 1 and 2, compared to changes in non-priority health services produced by the system	Annual percentage change	Household surveys
▲ Changes in burden of disease (if available) among the poor	Annual percentage change	Burden-of-disease studies
▲ Changes in morbidity/mortality profiles among the poor, for those clinical entities that are tackled with priority health services	Annual percentage change	Epidemiological data

Annex C. Bibliography

Arroyo J. 1999. La autonomización de hospitales públicos y sus consecuencias sobre la demanda de atención en salud. Lima 1988-1997. *Revista Panamericana de Salud Pública* 6(5):301-9.

Batley R. 1999. The new public management in developing countries: implications for policy and organizational reform. *Journal of International Development* 11:761-65.

Bitran R. 2002. Protecting the Poor under Cost Recovery for Health Care in Cambodia. Washington, DC: Bitran and Associates for the World Bank.

Bossert T, Kosen S., Harsono B., and Gani A. 1997. Hospital autonomy in Indonesia. Boston: Data for Decision Making Project, Harvard School of Public Health

Chawla M., Govindraj R., Berman P., and Needleman J. 1996. Improving hospital performance through policies to increase hospital autonomy: methodological guidelines. Boston: Data for Decision Making Project, Harvard School of Public Health.

Collins D., Njeru G., Meme J., and Newbrander W. 1999. Hospital autonomy: the experience of Kenyatta National Hospital. International Journal of Health Planning and Management. 14:129-53

Eid F. 2001. Hospital governance and incentive design: the case of corporatized public hospitals in Lebanon. Manuscript. Washington, DC: The World Bank.

Govindaraj R. and Chawla M. 1996. Recent experiences with hospital autonomy in developing countries: what can we learn? Boston: Data for Decision Making Project, Harvard School of Public Health.

Harding A., and Preker A.S. 2003. A conceptual framework for the organizational reforms of hospitals. In: Preker A.S. and Harding A. 2003. Innovations in health service delivery: The corporatization of public hospitals. Washington, DC: The World Bank.

Hawkins L. and Ham C. 2003. Reviewing the case studies: tentative lessons and hypotheses for further testing. In: Preker A.S. and Harding A. 2003. Innovations in health service delivery: The corporatization of public hospitals. Washington, DC: The World Bank.

Jakab M., Preker A.S., Harding A., and Hawkins L. 2002a. The introduction of market forces in the public hospital sector. HNP Discussion Paper. Washington, DC: The World Bank.

Jakab M., Preker A.S., and Harding A. 2002b. Linking organizational structure to the external environment: experiences from hospital reform in transition economies. In McKee, Martin and Healy, Judith, eds. Hospitals in a changing Europe. Open University Press.

Kamwanga J., Hanson K., McPake B., and Mungule O. 2003. Autonomous hospitals in Zambia and the equity implications of the market for hospital services. Report to the Ministry of Health, Republic of Zambia.

Mays, N. 2000. Reforming integrated systems: the case of the UK. In Mills, A. (ed.). Reforming health sectors. Kegan Publishers.

Levit K., Cowan C., Braden B., Stiller J., Sensenig A., and Lazenby H. 1997. National health expenditures in 1997: more slow growth. Health Affairs (Millwood) 17(6):99-110

McKee M. and Healy J. 2002. The significance of hospitals: and introduction. In McKee, Martin and Healy, Judith, eds. Hospitals in a changing Europe. Open University Press.

McPake B. 1996. Public autonomous hospitals in Sub-Saharan Africa: trends and issues. Health Policy 35:155-77.

McPake B., Yepes F.J., Lake S., and Sanchez L.H. 2003. Is the Colombian health system reform improving the performance of public hospitals in Bogotá? Health Policy and Planning 18(2):182-194.

Nandakumar A.K., Bhawalkar M., Tien M. 2003. Synthesis of NHA findings from twenty six countries. Presentation by Parterns for Health Reform*plus*, Abt Associates Inc. Accessed on Dec 8, 2003, at http://www.phrplus.org/Presentations/NHA/NANDA_Synthesis_of_Findings.ppt

Over M. and Watanabe N. 2003. Evaluating the impact of organizational reforms in hospitals. In: Preker A.S. and Harding A. 2003. Innovations in health service delivery: The corporatization of public hospitals. Washington, DC: The World Bank.

Pedersen K. and Bech M. 2003. The "corporatized" hospital and the neo-institutional and property rights theory or the firm. Manuscript.

Peters D.H., Elmendorf A.E., Kandola K., Chellaraj G. 2000. Benchmarks for health expenditures, services and outcomes in Africa during the 1990s. *Bulletin of the World Health Organization* 78(6):761:69.

Polidano C. 1999. The new public management in developing countries. IDPM Public Policy Working Paper # 13. Manuscript.

Preker A.S. and Harding A. 2003. Innovations in health service delivery: The corporatization of public hospitals. Washington, DC: The World Bank.

Robinson J.C. 1996. Administered pricing and vertical integration in the hospital industry. *Journal of Law and Economics* 39:357-78.

Robinson J.C. 1999. The corporate practice of medicine. University of California Press.

Robinson J.C. 2001a. The end of managed care. *Journal of the American Medical Association (JAMA)*. 285(20):2622-8.

Robinson J.C. 2001b. Organizational economics and health care markets. Health Services Research 36(1):177-89.

Russel S., Bennett S., and Mills A. 1999. Reforming the health sector: towards a healthy New Public Management. *Journal of International Development* 11:767-775.

Sharma S. and Hotchkiss D.R. 2001. Developing financial autonomy in public hospitals in India: Rajasthan's model. *Health Policy* 55:1-18.

Ssengooba F., Atuyambe L., McPake B., Hanson K., and Okuonzi S. 2002. What could be achieved with greater public hospital autonomy? Comparison of public and PNFP hospitals in Uganda. Public Administration and Development 22:415-428.

Wouters, A. and C. Leighton. 1998. Alternative provider payment methods: Incentives for improving health care delivery. Primer for Policymakers. Bethesda, MD: Partnerships for Health Reform, Abt Associates Inc.